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REMARKS

Claims 23-53 are pending. Claims 36-43 and 50 are withdrawn from consideration as being directed toward a non-elected invention. Claims 24-27, 30 and 46 are cancelled herein. Claims 23, 28-29, 44-45, 47-49 and 51-52 are amended as described hereinabove. Support for the amendments to Claims 23, 28-29, 44-45, 47 and 52 may be found in the specification, *inter alia*, on page 10, line 19 through page 11, line 21. Support for the amendments to Claims 48-49 and 51 may be found in the specification, *inter alia*, on page 25, lines 14-15 and on pages 26-28.

Applicants note with appreciation that claims 32-35 are allowed, and that claim 29 would allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, Applicants present for the Examiner's consideration new claim 53 which mirrors the subject matter of original claim 29, and thus should also be found allowable. Applicants submit that the claim amendments herein claims do not constitute the addition of new matter.

Claims 47-49 and 51 are rejected under 35 U.S.C. § 101 as being directed toward non-statutory subject matter. Claims 48-49 and 52 are rejected as allegedly being indefinite under the second paragraph of 35 U.S.C. § 112. Claims 23-28, 30-31, 44-49 and 51-52 are rejected under both the written description and enablement requirements of the first paragraph of 35 U.S.C. § 112.

Applicants respectfully traverse the objections to and rejections of the pending claims for the reasons set forth below.

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I. The Amended Claims are Directed Toward Statutory Subject Matter

Claims 47-49 and 51 are rejected under 35 U.S.C. § 101 as being directed toward non-statutory subject matter, because the term "host organism," which appears in these claims, may be read to encompass humans.

In response, Applicants first note that this term does not appear in Claim 47 or in the claims from which Claim 47 depends. Claim 47 therefore appears to be free from a rejection under 35 U.S.C. § 101, and Applicants respectfully request the withdrawal of the rejection of Claim 47 on these grounds.

With regard to Claims 48-49 and 51, Applicants have herein amended these claims so that the phrase "host organism" is further modified to indicate that the host organisms being claimed are plant, yeast, fungal or bacterial host organisms. In light of these amendments, Applicants respectfully request the withdrawal of the rejection of Claims 48-49 and 51 under 35 U.S.C. § 101.

II. The Amended Claims are Definite under the Second Paragraph of 35 U.S.C. § 112

Claims 48-49 and 52 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, Claims 48 and 49 were held to be indefinite for failing to recite complete method steps that result in expression of heterologous gene, while Claim 52 was held to be indefinite for failing to recite the specific hybridization and wash conditions for the desired DNA.

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In response, Applicants have herein amended Claims 48 and 49 to include the additional steps necessary to complete the transformation and expression processes, respectively. Applicants also amend herein Claim 52 to indicate that the hybridization is performed under stringent conditions. Support for the amendments to Claims 48 and 49 may be found in the specification on pages 26-28. Support for the amendment to Claim 52 may be found in the specification on page 11.

In light of these amendments, Applicants respectfully request that the rejections of Claims 48-49 and 52 under the second paragraph of 35 U.S.C. § 112 be withdrawn.

III. The Amended Claims Satisfy the Enablement Description Requirement of the First Paragraph of 35 U.S.C. § 112

Claims 23-28, 30-31, 44-49 and 51-52 are rejected under the first paragraph of 35 U.S.C. § 112 allegedly because "the specification, while being enabling for an isolated nucleotide sequence of SEQ ID NO:1 and 2 encoding SEQ ID NO:3, expression vectors and a transformed plant comprising said nucleotide sequence, and a process of transforming a plant with said nucleotide sequence, does not reasonably provide enablement for isolated nucleotide sequences having at least 80%, 90%, 95%, 98%, and 99% homology to SEQ ID NO:1 and 2, expression vectors, and any host organism comprising said sequences, and a process for transforming a host organism with said nucleotide sequences." Office Action at page 4.

To facilitate the earliest possible allowance of claims, and without conceding the correctness of the Examiner's assertion that the instant specification fails to enable claims to sequences having various degrees of homology to SEQ ID NOS: 1 and 2, Applicants herein have cancelled Claims 24-27, 30 and 46, and have amended Claims 23, 44-45, 49 and 52 to indicate

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that the claimed nucleic acids are capable of binding to the referred sequences under stringent hybridization conditions. Such conditions are described in the instant specification on page 11. These same claims also have been amended to indicate that the polypeptide encoded by the claimed nucleic acid is at least a portion of a protein essential for post-transcriptional inactivation. Support for this amendment may be found in the instant specification on page 9, lines 4-7. In light of these amendments, Applicants assert that Claim 23 and the claims dependent therefrom, Claim 31, Claims 44-45 and Claim 47 are fully enabled by the specification as filed, and respectfully request that the rejection of these claims under the enablement requirement of the first paragraph of 35 U.S.C. § 112 be withdrawn.

As for Claims 48, 49, 51 and 52, Applicants assert that these claims, as presently amended, are fully enabled by the specification at the time of filing. The transformation of the claimed organisms with exogenous nucleic acids was well-known in the art at the time of filing, and one of ordinary skill in the art of transformation would readily understand how to make and use the invention as presently claimed without undue experimentation. In support of this position, Applicants note that the specification, at p. 46, lines 8-16, teach the transformation of both bacteria and plant cells. Expression of the transformed nucleic acid in plants also was directly demonstrated. See specification, p. 46, lines 18-25. In view of the above amendments and remarks, Applicants assert that Claims 48, 49, 51 and 52 are also fully enabled by the specification as filed, and respectfully request that the rejection of these claims under the enablement requirement of the first paragraph of 35 U.S.C. § 112 be withdrawn.

Applicants reserve the right to pursue the full breadth of the claims as originally filed in one or more subsequent continuation applications.

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IV. The Amended Claims Satisfy the Written Description Requirement of the First Paragraph of 35 U.S.C. § 112

Claims 23-28, 30-31, 44-49 and 51-52 are rejected under the written description requirement of the first paragraph of 35 U.S.C. §112 as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner states that the claimed invention does not meet the current written description requirements because: 1) the claims do not recite functional limitation for the DNA sequences; 2) Applicants have not described a representative number of nucleotide sequences to support the genus claims; and 3) Applicants have not described structural features common to all the members of the genus claimed, which would allow one to predictably determine the identity of the species of the claimed genus. Office Action at page 9.

In response, independent claims 23 and 44 have been amended to require that the claimed nucleic acid encode a protein essential for post-transcriptional inactivation, or encode a portion of such a protein. As such, these claims recite a functional limitation for the claimed nucleic acids. Moreover, the structural features common to all such nucleic acids include the ability to selectively hybridize to the recited sequences under stringent hybridization conditions. As such, Applicants assert that the presently claimed subject matter, as amended, is fully described in the specification in a manner such that one of ordinary skill in the art would appreciate that Applicants possessed the invention as of the earliest priority date. Accordingly, Applicants respectfully request that the rejection of these claims under the written description requirement of the first paragraph of 35 U.S.C. § 112 be withdrawn.

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CONCLUSION

In light of the amendments and the arguments provided herein, Applicants submit that the present application is in condition for allowance. A Notice of Allowance is therefore respectfully requested.

Respectfully submitted,

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